CA2ALWRC
A56

1989-90 c.v

ANNUAL REPORT 1989-1990

Water Resources Commission

Sessional Paper 53/91
2nd Session, 22 Legislature

EDUCATION

ANNUAL REPORT 1989-1990

Water Resources Commission

ISSN: 0833-7748

92-00437/

Alberta
WATER RESOURCES
COMMISSION

Office of the Chairman

910 Harley Court, 10045 - 111 Street, Edmonton, Alberta, Canada T5K 2M5 403/422-4232

The Honourable Rick Orman
Chairman, Cabinet Committee
on Economic Planning

Sir:

I have the honour to present the Annual Report of the Water Resources Commission for the year ending March 31, 1990.

Respectfully submitted,

Alan Hyland

Alan Hyland, M.L.A.
Chairman

Alberta
ENERGY

Office of the Minister

228 Legislature Building, Edmonton, Alberta, Canada T5K 2B6 403/427-3740

His Honour Gordon Towers
Lieutenant-Governor
of the Province of Alberta

Sir:

I have the honour to hereby transmit the Annual Report of the Water Resources Commission for the year ending March 31, 1990.

Respectfully submitted,

Rick Orman
Minister

While many parts of Alberta are blessed with an abundance of good quality water, there are increasing demands being placed on this precious resource. Water shortages may be an issue in one area, water quality in another. Greater care must be taken in managing water in order to maximize its benefit to all Albertans.

A number of broad themes in wise resource management and environmental protection are emerging. One is that we must do more to conserve water, and watersheds. Conservation must be more than a slogan, it must be a part of everyday life.

Second, we must be more integrated in our management of water. For example, what we do on the land will affect our water. Water quality and quantity are closely connected also. We must come to see water as more than a resource for development; it is a part of the living ecology of our province.

Genuine and open consultation with the public is now a critical part of water management. The government must share information openly with, and listen to, Albertans. In turn, Albertans must talk and work together to solve our water management challenges.

In recognition of the need to manage Alberta's water in a coordinated manner and for the benefit of multiple users, the Water Resources Commission Act was passed in 1983, establishing the Commission and defining its mandate for a five year period. The Act was amended in 1987, extending this mandate for a further five years.

ROLE AND RESPONSIBILITIES

Under the Water Resources Commission Act the Commission is responsible for advising the Alberta government with regard to:

- long term water resource planning in relation to agricultural, economic, community and environmental factors;
- evaluations of specific short and long term water resource projects;
- intergovernmental negotiations affecting the water resources of Alberta; and
- the administration and general policy of the government regarding water resources.

At the request of the government, the Commission undertakes public consultation on matters regarding water resources in the province.

The Commission's role in support of the province's water management objectives is to advise on policy matters for the purpose of providing assistance in decision-making by the departments involved in the administration and management of water. The Commission provides a forum for weighing water resource issues affecting a wide spectrum of users and involving a number of disciplines.

The Commission provides financial support to water management research and public awareness projects. Priority is placed on topics which emphasize multiple use and benefits from water management. Projects are supervised and partially funded by the departments represented on the Commission and are frequently undertaken by private sector consulting firms.

MEMBERSHIP AND REPORTING LINE

The membership of the Water Resources Commission is composed of representatives from the Legislative Assembly, the public at large, and five provincial government departments at the Assistant Deputy Minister level. These departments are Agriculture; Economic Development and Trade; Environment; Forestry, Lands and Wildlife and Municipal Affairs.

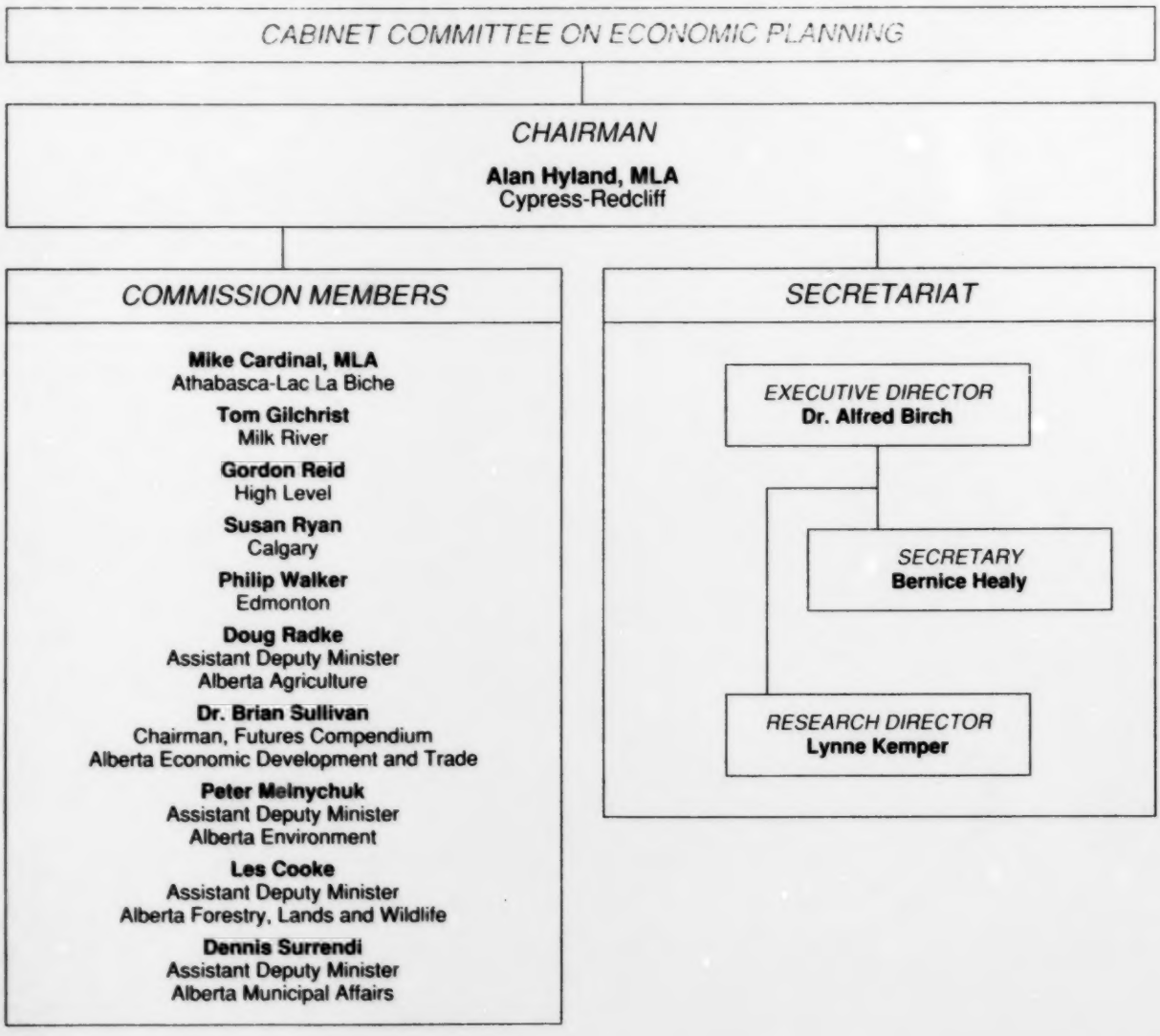
Two members of the Legislative Assembly are appointed by the Lieutenant Governor in Council. The M.L.A. for Cypress-Redcliff, Mr. Alan Hyland was Chairman of the Commission during the 1989/90 period. Mr. Mike Cardinal, M.L.A. for Athabasca-Lac La Biche, was a member.

Four persons, appointed by the Lieutenant Governor in Council, represent the public at large. Mr. Phil Walker (Edmonton) and Mr. Tom Gilchrist (Milk River) continued their membership. Mr. Isaac Lawrence (High Prairie) and Mrs. Margaret Lounds (Calgary) resigned during the 1989/90 period and were replaced at the end of the year by Mr. Gordon Reid (High Level) and Ms. Susan Ryan (Calgary).

The Water Resources Commission reports to the Provincial Cabinet through the Cabinet's Economic Planning Committee. From time to time, representations are also made to other Cabinet members and caucus committees as appropriate. The Commission is not directly affiliated with any of the provincial departments.

In administrative matters, the Commission reports to the Executive Council of the provincial government. Staff support to the Commission is provided by a Secretariat composed of an Executive Director, Research Director and Secretary. Dr. Alfred Birch was the Executive Director for the reporting period.

ALBERTA WATER RESOURCES COMMISSION
ORGANIZATION CHART



HIGHLIGHTS

The Commission's work continued to focus on three major issues during this fiscal period.

The issue of wetland management was a major component of Commission activities in 1989/90. An interdepartmental steering committee, chaired by the Commission, developed a background paper and a draft policy on wetland management for consideration by the government and the public. In-depth plans for two small watersheds in northwestern Alberta were developed under the Sub-Basin Water Management Planning Program. These dealt with, among other things, agricultural development and wetland conservation. Preliminary results identified the need for local involvement and careful consideration of land use objectives as well as the enormous costs involved in managing water in that part of the province. The On-Farm Water Management Study continued an examination of technical issues surrounding alternatives to conventional drainage and provided demonstration projects for the promotion of improved water management.

Water uses and supply in southern Alberta were major concerns during the year. Activities included reviewing and endorsing Environment's South Saskatchewan River Basin policy recommendations. A prime component of this initiative was the review and discussion of irrigation expansion guidelines. Other related Commission initiatives were continuing work on instream flow needs, a strategic assessment of the Western Irrigation District's management options and promotion of irrigation expansion risk assessment. The Commission was also involved in a study of water supply for the Special Areas and options for a renewal of the Irrigation Rehabilitation and Expansion Program.

Public awareness of water management issues and options continued to be a strong component of Commission efforts. During this period the Commission developed and approved a set of principles for use in its public consultation activities. Support continued for the development of an *Atlas of Alberta Lakes*, including editorial assistance. Commission staff were involved in preliminary planning for a public review of the Water Resources Act. Commission members helped organize and participated in the first "Flowing to the Future" conference and the annual international meeting of the Soil and Water Conservation Society, "Making Conservation Happen Together". In addition Commission members and staff supported a number of educational initiatives and participated in tours, meetings and conferences throughout the year.

A final highlight of the year was a strategic planning retreat, attended by Commission members and staff, to increase awareness of the role and responsibilities of the Commission and plan the direction of activities and efforts for the following years.

WETLAND MANAGEMENT

The Commission was involved in several initiatives related to wetland management. Wetland resources are under the mandates of several departments but the wetlands are not the direct responsibility of a single department. Wetlands also exemplify the relationship between land and water management; both should be considered in planning and decision-making primarily for one or the other.

Wetland Management and Conservation Policy

Development of an integrated draft government policy for wetlands was a major focus of Commission attention during the year. An interdepartmental steering committee completed a background paper and summary report. The draft policy states "The Government of Alberta will ensure the conservation and management of wetland resources in the settled area of Alberta to sustain the agricultural, environmental, economic and social benefits that wetlands provide." A number of planning, education and awareness, wetland management, program delivery and legislative review strategies were also proposed. The Commission supported the need for public discussion of the draft policy. Accordingly a public consultation proposal was prepared. Adequate time for public review, a workshop format for public discussion and a commitment to report back to the public were incorporated in the proposal. As a complementary activity, Commission staff advised on an initiative of the Environmental Law Centre to review legislation, regulation and common law pertaining to wetlands on the prairies. An information session was held with federal government staff involved in developing a federal wetlands policy. The Commission also commented on a draft of the Environment Council of Alberta's conservation strategy document on wetlands.

Sub-Basin Water Management Planning Program

This program, providing integrated water management plans and addressing drainage, erosion and flood control and wildlife habitat loss in northwestern Alberta, continued in 1989/90. The program was supervised by an interdepartmental committee, with representation from Environment, Forestry, Lands and Wildlife, Agriculture, Municipal Affairs, Transportation and Utilities, and the Commission. A local committee representing four municipalities also played a central role in promotion and local coordination of the project. Detailed plans were drafted for two watersheds representing a variety of drainage, habitat and agricultural development situations in the Fairview and Spirit River areas.

Results from the pilot studies in these two watersheds highlighted a number of issues. The cooperation of local government councils, landowners and the general public was enthusiastic and important. Concerns were evident, however, regarding the high cost of planning and of implementing the plans. The base assumptions and alternatives, full development of arable land and full regional habitat retention or replacement, have significant impact on implementation costs and need to be considered carefully before further watersheds are addressed.

The Commission supported the development of a framework for regional analysis, a collection of regional maps with an accompanying report. The purpose of the framework was to provide a tool whereby local governments could visually compare information on agricultural development potential, water erosion risk and areas of known flooding and significant wildlife habitat. This planning tool will assist municipalities, at a broad scale, to relate land and water management options and constraints.

The Sub-Basin Water Management Planning Program represented a clear example of well-integrated land and water planning with strong local government and public involvement. The possibility of further implementation of such a planning initiative should be carefully considered.

On-Farm Water Management Study

The objectives of this study are to document the costs, benefits, hydrology, wildlife impacts and operational details of five on-farm water management alternatives as well as to provide demonstration projects for producers and local authorities. The emphasis is on sound soil and water conservation alternatives to conventional drainage. The study is directed and funded by an interdepartmental team including Agriculture, Environment, Forestry, Lands and Wildlife, Municipal Affairs and the Commission.

The reporting period was the first year of data collection for this study. Some site construction was required, especially to repair or modify structures that were not performing as anticipated. A review of the results also indicated a need to alter the research design relating to waterfowl to provide a larger survey area that would account for the mobility of nesting birds. Results confirmed that habitat mitigation designs provide some nesting habitat but do not nearly compensate for the habitat loss to drainage. Ducks Unlimited agreed to participate in the study and provide assistance in computer modelling of other habitat relationship possibilities which would provide benefits to both the landowner and wildlife.

Measuring the runoff from very small watersheds is an important component of this project. These results will be useful in design work for both on-farm and off-farm situations. Further work with the producers and more intensive results from the agronomic component of the study will be necessary to properly assess the costs and benefits of the different water management scenarios.

The sites were toured by various groups during the year and the project was described in several farm publications, thus increasing the awareness of alternatives to conventional drainage in farm water management planning.

WATER SUPPLY IN THE SOUTH SASKATCHEWAN RIVER BASIN

Over eight years of effort culminated this year in approval of a water management policy for the South Saskatchewan River Basin. This began with Environment's South Saskatchewan River Basin Planning Program and continued with the Commission's public hearings and report. The new policy which represents Environment's response to the report was reviewed and endorsed by the Commission during 1989/90.

South Saskatchewan River Basin Policy Statements

These proposed policy statements, prepared by Environment in consultation with the Commission, represent a major new initiative by the two agencies. These statements recognize the importance of water to southern Alberta and the challenge of managing the resource to meet many demands. Highlights of the policy include:

- confirmation of multi-purpose use as the governing principle for use and management;
- provision for establishment of minimum and preferred instream flows;
- irrigation expansion limits;
- development of a water conservation program; and,
- public consultation.

The need to review the provincial Water Resources Act was associated with the approval of this policy. This act dates back to the late 1800's and is structured primarily as a water allocation mechanism. It needs to be reviewed and updated to support the concept of sustainable development and to ensure wise water management. General planning for the review began in 1989/90 with consideration of processes and mechanisms to ensure public and stakeholder input to the development of other required policies and legislation. Commission staff assisted in documentation of Environment's existing water management policies and programs.

Irrigation

The Commission reviewed the irrigation expansion guidelines proposed by Environment. As the rivers of the South Saskatchewan River Basin come closer to being fully allocated, while still providing for appropriate instream flow needs, it is necessary to plan for their future wise use. The establishment of guidelines means that irrigation development can continue in an orderly fashion with some security for the necessary infrastructure investment. The Commission stressed the need for periodic review of the guidelines as instream flow needs are better quantified and irrigation efficiency improves through new technology and rehabilitation.

The Commission also reviewed initial plans for the renewal of the Irrigation Rehabilitation and Expansion program. This renewal will be for the final five year term of the program. The Commission concurred with the need to bring all irrigation districts to a minimum standard of rehabilitation and to stress to the districts their responsibility to provide for the ongoing maintenance and rehabilitation of their works for the future.

The need for a special strategic planning effort for the Western Irrigation District was brought to the Commission's attention by Agriculture. A study was undertaken, under the direction of Agriculture, Environment, the Western Irrigation District and the Commission, to prepare a long-term business management and development plan for the district. Several significant conclusions and recommendations were developed concerning such things as annual district water rates, internal storage development and rationalization of district infrastructure. The district began to examine and respond to these study results during the 1989/90 year.

Instream Flow Needs

The Commission continued to support the interdepartmental project to establish and protect instream flow needs. Work during the year focused on priority rivers: the Highwood (a tributary of the Bow River) and the Waterton, Belly and St. Mary Rivers (tributaries of the Oldman River). Financial support from the Commission allowed collection of important hydrological and fisheries information on the latter three.

Willow Creek (a tributary of the Oldman River) and the Bow and Red Deer Rivers are also important rivers and preparations were made for instream flow needs work on them.

Important study procedures and concepts were developed and refined during the year, including public consultation and the definition of minimum and preferred flows and their relation to fisheries and water quality flow requirements. An extensive public consultation process was initiated for the Highwood River study.

Special Areas Water Supply

The Commission provided financial support and participated in the management of this study which is examining the feasibility of supplying water from the Red Deer River to the Special Areas for domestic, livestock, environmental, recreational and supplemental irrigation purposes. The major developments in 1989/90 were the completion of a Phase I report and a decision by the Energy Resources Conservation Board regarding an application for hydro-power development to provide pumping power for the project.

The Phase I report examined the initial feasibility of the project. Land irrigability, water supply from the Red Deer River and alternative pumping and canal layouts were examined. The report indicated that the project appears to be initially feasible and further studies should be completed. This further work was initiated under a Phase II study which is intended to examine such things as overall water management in the project, water quality, fisheries and more detailed engineering and economic evaluation.

The Energy Resources Conservation Board did not award the approval to install hydro-power generators at the Dickson Dam to the Special Areas Board for the benefit of this project. Consequently, alternative power supply and financing plans were proposed and made a part of the feasibility study.

PUBLIC AWARENESS

The Commission's role in support of the province's water management objectives is to advise on policy matters to Cabinet and member departments. The Commission provides a forum for coordinating and weighing water resource issues affecting a wide spectrum of users and involving a number of disciplines. The Commission seeks public opinion on a number of these issues and, therefore, supports activities which increase public awareness and promote fair and balanced public participation.

Two major activities in this fiscal year were related to public awareness. The first was the production of a small brochure describing the Commission's functions, membership, reporting line and activities so the public understands these and how the Commission differs from a line department. The second was the development of principles to be employed in all public consultation processes in which the Commission is involved. These principles include the development of on-going information exchanges around major issues, two-way communication, clear public statement of process and objectives, provision of supporting information and use of a variety of mechanisms as appropriate for the issue at hand. The Commission also agreed that public consultation on any one topic should involve more than a single-step approach, that it should be evaluated and changes made as required and that released reports and recommendations should be given to all participants with the opportunity for discussion, if desired.

Other public awareness and education activities included support for the production of the *Atlas of Alberta Lakes*. This book contains detailed information for scientists and the public on 100 Alberta lakes and will be published in 1991. The Commission participated in and provided funding for the first "Flowing to the Future" conference. This meeting of public, interest groups, industry, municipalities and government to discuss the future of Alberta's rivers proved very successful in creating dialogue between groups and developing a vision for the province's rivers.

The Commission also supported and participated in a number of other conferences, local, provincial and international that concerned water and water management. Commission staff lectured to several university classes and met with other government and non-government organizations to discuss concerns regarding water in the province.

ISSUES AND ACTIVITIES

During the course of Commission activities for the year, including six regular and one special meeting, a number of other water related issues were considered and follow-up action taken or recommendations made.

- **Strategic Planning** The Commission held a two day meeting at the end of the fiscal year specifically to discuss strategic planning for the near future. Members identified a number of strategic issues and recommended future action. The issues included: wetland policy, cabinet relationship and reporting line, Water Resources Act review, land/water planning integration, public value shifts and involvement, sustainable development, Commission practices, multiple use of water, water quality, and interjurisdictional and transboundary negotiations. The next two years will be a transitional period towards implementing action on these issues.

- **Oldman Dam** Periodically reviewed the legal situation, the construction and mitigation activities and the draft operating plan.

- **Canadian Heritage River System (CHRS)** Received presentations on the history and background of the program and requested Environment and Recreation and Parks to prepare a report with an implementation plan and discussion of the benefits and concerns associated with membership. The Commission will recommend on membership in CHRS after reviewing this report.

- **Alberta Metis Settlement Accord** Reviewed the draft proposal that would move the settlements to self sufficient, democratic local governments within 17 years. Special consideration was given to the draft provisions concerning ownership of bed and shore of waterbodies within settlement boundaries and jurisdiction over adjacent waterbodies.

- **North American Waterfowl Management Plan** Reviewed the implementation phase of this plan including the cost share formula, the focus on land management activities which are compatible with other soil and water conservation initiatives and the proposal to increase the crop damage prevention and compensation program. Alberta has approved the plan in principle.

- **Canada/Alberta Soil Conservation Agreement** Reviewed the draft terms of this agreement, noting that it is compatible with other initiatives, especially water conservation and wetland policy direction.

- **Eagle Lake** Monitored status of the proposal to develop a recreation community around this lake. Noted that consideration needs to be given to the potential impact on irrigation district operations and irrigation expansion guidelines.

- **Irrigation Act Amendment** Reviewed proposed alternatives to amending the act to allow Irrigation Districts to expand their activities beyond delivering water. Members expressed concern regarding the implications and, while agreeing in principle, suggested strong controls regarding approvals and financial liability.

- **Transboundary Issues** Monitored several transboundary issues including the Mackenzie Basin negotiations, Prairie Provinces Water Board activities and water rights adjudication on the south tributaries of the Milk River.

- **Alberta Round Table on the Environment and the Economy** Discussed the proposed implementation of an Alberta Round Table and recommended on the sector composition and the relationship between a Round Table and the Commission.

- **Agriculture Land Use Policy Interface** Staff participated in this interdepartmental activity to identify policy issues that have potential conflicts between Agriculture and other departments. Once they are identified and prioritized a request will be made to senior levels of government to initiate actions to resolve any conflicts.

- **Meridian Dam** Several members and staff toured the area of the dam being proposed by local residents. The members reiterated the government position that it is not prepared to carry out studies of the proposal, especially without the participation of the Saskatchewan Government and that there is potential to develop further water use on the lower South Saskatchewan River without building a dam.

- **Water Conservation** Staff attended a Water Conservation workshop organized for provincial government departments by Environment to identify issues and needs in water conservation.